

TECHNICAL SPECIFICATION

Type= FORS TWIN-120 LARS

Capacity=4 diver x Twin Basket LARS

FORS TWIN BASKET LARS – HYDRAULIC

FORS's Twin-120 comes with two separate diver baskets operated from one A-frame. Both baskets will have their own clump weight. Cable wires will be handled by driven main (2x) and secondary (2x) winches specially rated for personnel handling.

Specification

- Hydraulic twin double basket LARS
- Skid Base and A-Frame - Skid Base & A-Frame
- Electro -hydraulic driven
- 2x Main man riding winch
- 2x Clump weight winch
- Main diver basket & clump weight
- Standby diver basket & clump weight
- Electric controls on the Skid Venom 400Vac 50Hz
- Nominal basket speed: 15m/min at outer layer



Features

- Main basket & clump weight
- Standby basket & clump weight
- Man-rider hydraulic driven winches & drum.
- Main & secondary operating system in AISI 316L stainless steel housing
- A-frame rams hydraulic driven.
- Height limiting switch.

Twin Double Basket LARS

- Total weight: Approx. 7150 kg
- Platform: offshore coated steel - S 355 J2
- A-frame: offshore coated steel - S 355 J2
- Electronic control box: stainless steel - AISI 316L (IP66)
- 4x Double break man-riding winches, stainless steel cover - AISI 316L
- Diam. 16 mm wire for cages, 120 Mtr-
- Diam. 12 mm wire for clump weights, 240 Mtr-
- Remote control
- Flood light



Possible options:

- External Fairleads
- Spare air set
- Diver Recovery Assembly
- Wire Counter
- Open Top Container
- Extensive overseas maintenance kit
- Operators and maintenance training

Main Man-Basket

- Offshore coated steel - S 355 J2
- 175 kg Weight
- 575 kg payload
- 1250 x 880 x 2350 mm (L x W x H)



Stby. Man-Basket

- Offshore coated steel - S 355 J2
- 150 kg weight
- 310 kg payload
- 1250 x 570 x 2350 mm (L x W x H)

Main Clump weight

- Offshore coated steel - S 355 J2
- 180 kg weight
- 930 x 300 x 255 (L x W x H)

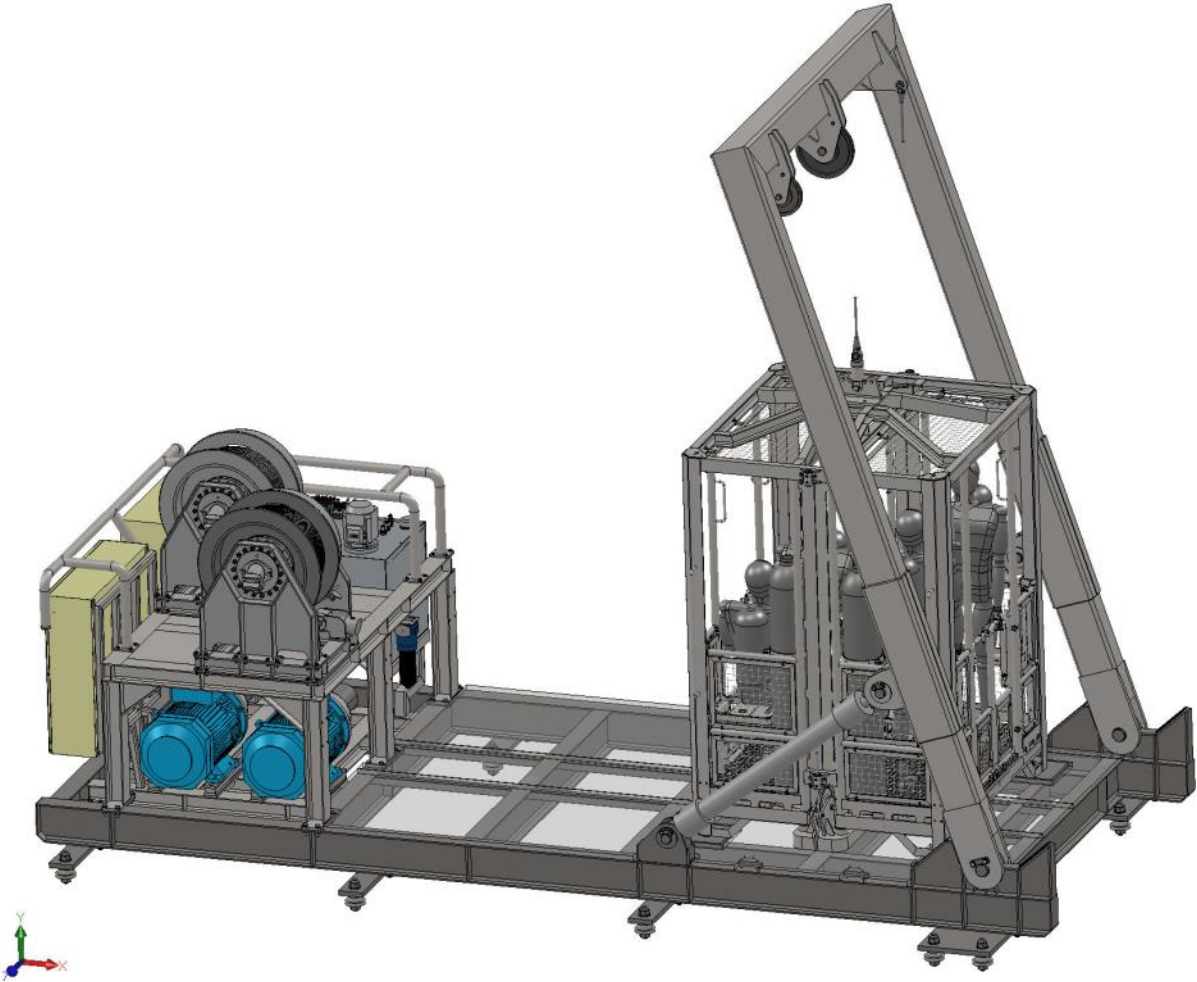
Stby. Clump weight

- Offshore coated steel - S 355 J2
- 110 kg weight
- 580 x 300 x 255 (L x W x H)



The main components of the system are broken down as follows:

- Base Skid
- A-Frame
- Primary Dive Basket (Three Diver)
- Primary Clump Weight
- Secondary Dive Basket (Standby Diver)
- Secondary Clump Weight
- 3 x Electric Hydraulic Power Packs
- 4 x Winches
- Hydraulic Control Station
- Electrical Control Enclosure
- Electrical Distribution Enclosure



Base Skid

The so-called base frame is the support frame for the basket handling parts, on four corners container lashing/ fittings are welded this for easy transport with a container type of transport truck.

At front side the hinge points of the A-frame are welded on with the brackets for both hydraulic cylinders for adjusting the A-frame.

Beams are welded in to guide the adjustable platform, at rear side six stanchions made from RHS type of profiles, distance of the stanchions according to the container fittings of the upper frame.

The front space will be used for storage of the power pack and the control stand support is permanently fitted at front.

The storage area comprise a fixed bolt down grating as a floor-ring, the side at the HPU is grating too ,and permanent fixed, both sides and rear part are grating too and demountable ,

The flooring will be totally made by open mesh grating, galvanized, type according to a design load of 250 kg/m2.

Lift eyes are demountable fitted to handle the frame with all equipment.

Dimensions over the bottom-container fittings based and tolerances, comprising:



A-Frame

The so-called A-frame is a U-form type of RHS beams welded together and forming a unit, both legs at base side are equipped with hinge mounted shafts with bronze bushing type of bearings.

Each leg provided with weld on brackets with shafts for the hydraulic cylinders, the top-traversal beam is equipped with the bracket and shaft for the sheave at centerline, two Weldon brackets with shafts for the two Clump sheaves, Two brackets with shafts for the hinge mounted catcher-ring and at top a umbilical guider with rollers.

When extended the outreach is the angle with the horizon is about +50 degrees Due to the large design off-lead angle each sheave arrangement is equipped with a fairlead roller system.

Triple Electric Hydraulic Power Unit (HPU)

The Triple Electric Hydraulic Power-packs are mounted to the Base Skid below the Winch Pedestal. Each HPU is equipped with separate hydraulic reservoirs, return line filters, sight glasses and fill point. Each HPU is fitted with a 22kW motor with 90 LPM fixed displacement vane pump. Two of the HPUs act as the primary units whilst the third HPU acts as an independent secondary supply in the event of failure of either of the two primary units. The hydraulic system is fitted with non-return valves and over-pressurization safety valves which operate as and when required during the operation of the diver's LARS system. The unit is fitted with a triple lever emergency change over valve system, which is switched very simply from the primary to the secondary hydraulic system, without the need to disconnect.

A schematic logic panel is fitted to the LARS showing the normal operating valve positions and the actual changeover positions for each HPU.



Primary Dive Basket

The Diving Basket is suitable for two divers. It incorporates 2 x 50 litre high pressure emergency air cylinders, Clump Weight wire guides and diver access points from both sides. Grab handles are situated within the cage and the base of the basket is fitted with a light weight, non-slip corrosion proof composite type material grating. Welded steel bars are used to enclose the sides of the basket with a stainless steel perforated panel covering the top. Stainless steel chains, karabiners, nuts and bolts are used as standard in the assembly of this basket. The main structure of the basket is made up of high strength mild steel section. The main lift wire connection point incorporates two additional emergency lift points. Internally the basket is fitted with three emergency pad eyes used for support fixings in the event of an emergency. They are fitted one over each seat and one centrally within the basket roof structure frame. The basket incorporates a roller box to allow the umbilical to move freely whilst remaining attached to the basket.

Secondary Dive Basket

The Secondary Diving Basket is suitable for one diver. It incorporates 1 x 20 liter high pressure emergency cylinder, Clump Weight wire guides and diver access points from both sides. Grab handles are situated within the cage and the base of the basket is fitted with a light weight, non-slip corrosion proof composite type material grating. Welded steel bars are used to enclose the sides of the basket with a stainless-steel perforated panel covering the top. Stainless steel chains, Karabiners and nuts and bolts are used as standard in the assembly of this basket. The main structure of the basket is made up of high strength mild steel section. The main lift wire connection point incorporates two additional emergency lift points. Internally the basket is fitted with two emergency pad eyes to allow support fixings in the event of an emergency. The basket incorporates a roller box to allow the umbilical to move freely whilst remaining attached to the basket.



Manriding Winches

The hydraulic driven manrider hoist winch is bolt mounted on the 10ft top frame at the center line. For manrider purpose the winch is equipped with three braking system comprising: Multiple disc brake, failsafe type Pilot assisted over Centre valve.

As soon the hydraulic pressure for the winch function drops, both brakes will act.

As a backup, a second pump set can be used and a second.

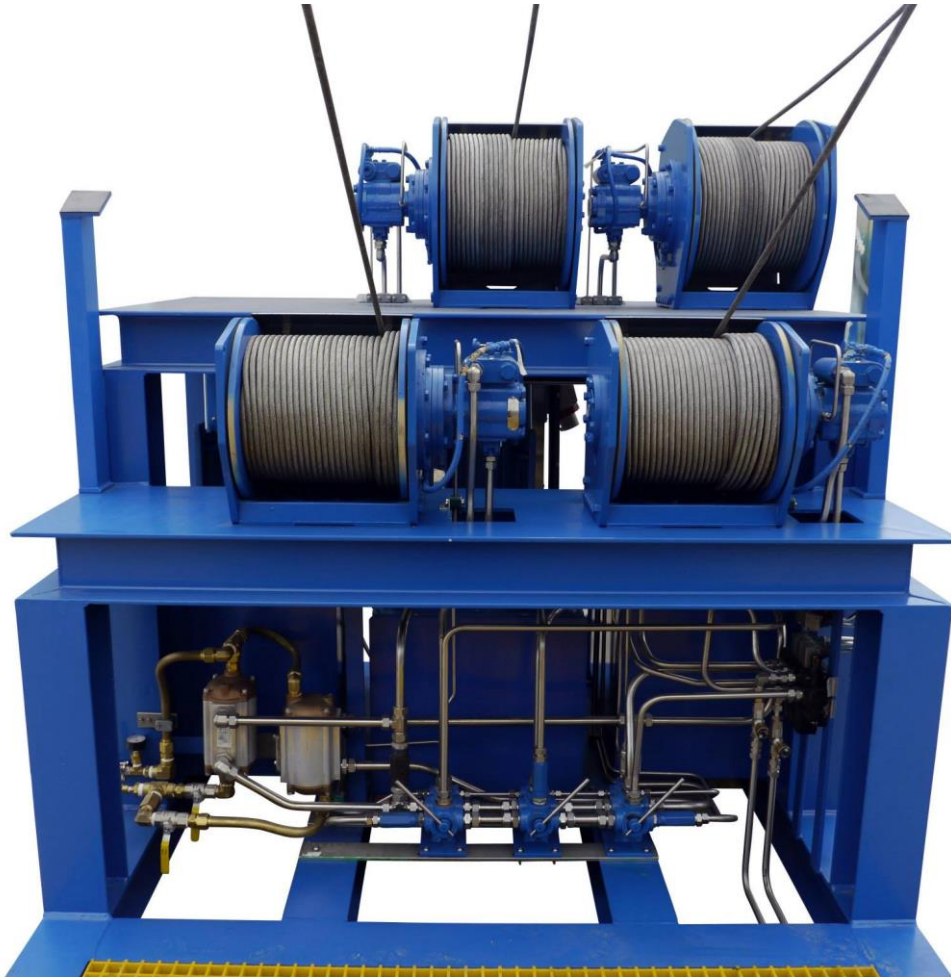
On the rims gear track two planet gears are gear tracking via pinions, one planet gear with brake and hydraulic motor with CB valve and a second planet gear with no brake but equipped with a crank shaft arrangement .

The planet gears and brake are filled with lubrication oil.

Rotating direction. View to hydraulic motor (A-frame located at right) for hoisting is Clockwise and the rope is underslung fitted, bell lowering is CCW direction.

Control of winch from RCP (remote control panel and from

The manifold fitted on fluid reservoir.



Clump Weight Winches

The Clump winch is bolt down mounted on the top frame at the aft position. For man rider purpose the winch is equipped with three braking system comprising: Multiple disc brake, between gear input & hydr motor output shafts Pilot assisted over Centre valve As soon the hydraulic pressure drops until 13 Bar both brakes nr1&2 will apply ,and are releasable by hydraulic pressure (handpump etc)

For backup purpose a second pump set can be used. The steel plate welded drum is cantilevered bolt mounted on the inner rim of a ball bearing support with a gear track.

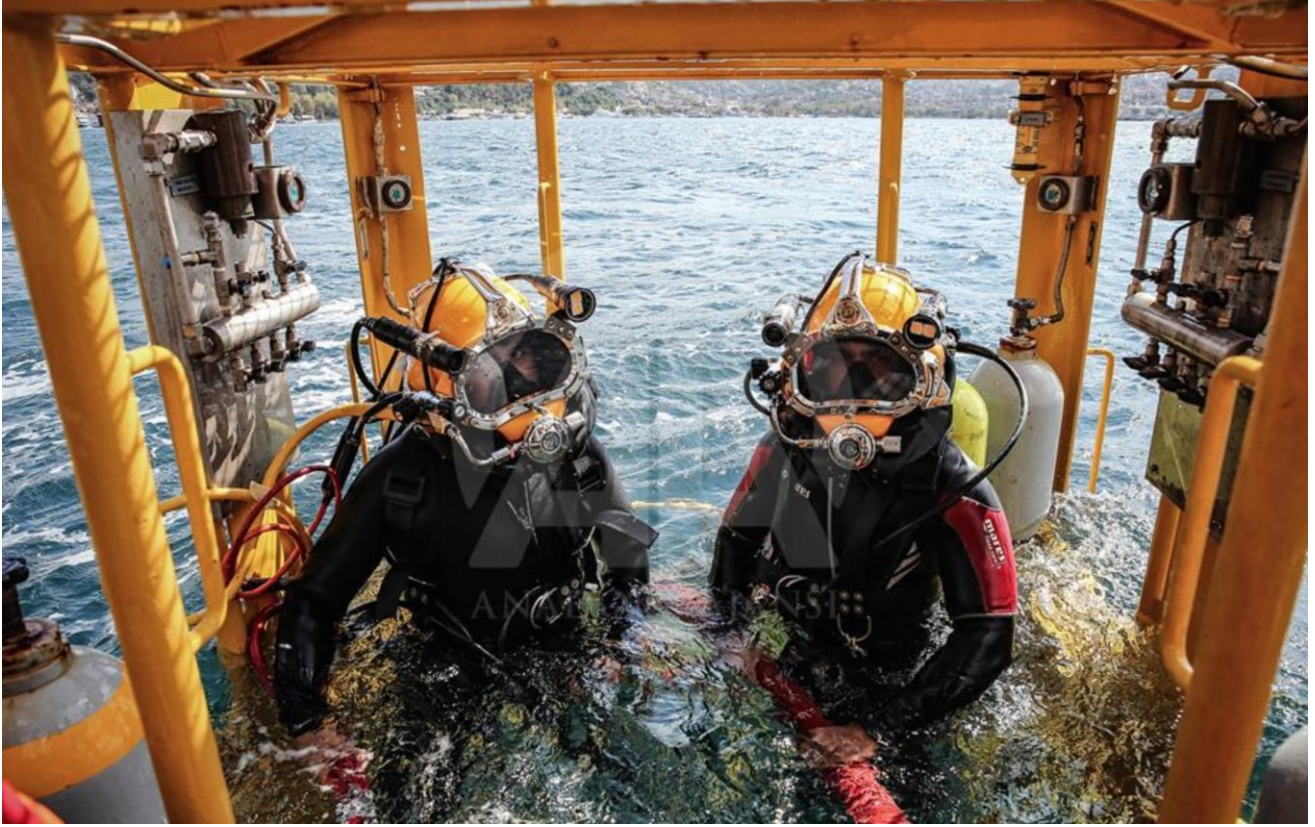
The outer rim is bolt mounted at the support On the rims gear track one planet gear is gear tracking with a pinion with brake and hydraulic motor with CB

On delivery the planet drive + brake have their initial fill,of luboil Rotating direction, view to hydraulic Motor (A frame at the right) for hoisting is clock wise (CW) and the rope is under slung mounted at the drum, clump lowering is CCW rotation.

NOTE: In case of emergency the clump winch is capable to raise the man Bell up to the waterline.(or higher).

However at normal use the clump must be remain under water and to be kept in the lowest position thus for a Good bell guidance during travel and too avoid a large lateral movement of the bell in a current of the water. Control of winch from the RCP with cable and from the manifold (backup) valve block fitted on the fluid reservoir in HPU.





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